

# **Request for Proposal**

## **City of Pleasant Hill Public Digital Initiative (WiFi)**

**City of Pleasant Hill, California  
5 April 2007**

**TABLE OF CONTENTS**

<b>1. Purpose and Objectives .....</b>	<b>3</b>
1.1. Bid Process .....	5
1.2. Schedule of Events .....	5
1.3. Contact Information .....	6
1.4. Bid Submittal Instructions .....	6
<b>2. General Conditions and Instructions to Proposers.....</b>	<b>6</b>
2.1. Proposal Format .....	7
2.2. Evaluation Criteria .....	8
2.2.1. Weighted Evaluation Factors .....	8
2.2.2. Vendor Qualifications .....	8
2.2.3. System Suitability .....	9
2.2.4. Project Manager .....	9
2.2.5. System Installation .....	9
2.2.6. System Acceptance .....	10
2.2.7. Termination Provisions .....	10
2.2.8. Demonstrations .....	10
2.2.9. Equal Employment Opportunity .....	10
2.2.10. Copyright and Patent Rights .....	11
2.2.11. Taxes .....	11
2.2.12. Insurance .....	11
2.2.13. Hold Harmless .....	11
2.2.14. Business License .....	11
<b>3. General System Requirements .....</b>	<b>12</b>
3.1. Background and System Details .....	12
3.1.1. Existing Communications Infrastructure .....	12
3.1.2. Mounting and Backhaul Locations .....	14
3.2. General System Requirements .....	16
3.2.1. System Parameters .....	16
3.2.2. System Capacity .....	16
3.2.3. Reliability and Fault-tolerance .....	16
3.2.4. Network Topology .....	16
3.2.5. Hardware .....	16
<b>4. Wi-Fi WAN Communications System Compliancy Table.....</b>	<b>17</b>
4.1.1. System Requirements .....	17
4.1.2. WiFi Cell Requirements .....	19
4.1.3. Client Station Requirements .....	19
4.1.4. Reliability and Fault Tolerance Requirements .....	19
4.1.5. Coverage, Capacity and Performance Requirements .....	20
4.1.6. Security Requirements .....	21
<b>5. Proposed Hardware/Software Platforms .....</b>	<b>21</b>
5.1.1. Overview .....	21
5.1.2. Wi-Fi Cell Component List .....	21
5.1.3. Existing MCT Client Station Retrofit Component List .....	21
5.1.4. New Client Station Component List .....	22
<b>6. Projected Implementation .....</b>	<b>23</b>

## Purpose and Objectives

The City of Pleasant Hill is soliciting vendors through this Request for Proposal (RFP) to finance, manage, design, maintain and deploy a wireless broadband network (Network) throughout Pleasant Hill at no cost to the City. Pleasant Hill currently has a Wifi system with approximately 60-70% coverage of the City. The successful vendor will take over maintenance/replacement and use of current equipment and pay a use fee of 5% of gross revenues. City will maintain ownership of current equipment and any replacement of existing equipment. Vendor will renegotiate lease agreements for roof rights and mounting assets for existing equipment. Existing lease agreements with the City will be discussed during negotiations. Vendor will negotiate with PG&E concerning pole access, electrical fees, or any other fees required by PG&E. Network to be completed and operational within 1 year upon signing of contract. Contract term will be 15 years. Vendor may also submit proposals for paid plans over 1 megabyte and any future increase in rates plans.

This system is intended to achieve the following goals:

- **Free Public Access** – 90% coverage of the entire City with minimum 1 megabyte connectivity. The Vendor shall identify marketing or other roles in this free access.
- **Student Access** – Elementary School, Middle School, High School and Colleges shall be covered under the Free Public Access.
- **Indoor Access** – if additional equipment is needed for indoor use, vendor will state this in the proposal and state type and model number of equipment recommended and any fee associated with additional equipment.
- **Outdoor Access** – 90% coverage of the entire city using standard laptop.
- **High levels of reliability.** Deliver 99.99% network uptime within the coverage area.
- **Fault tolerant and redundant.** Provide automatic fail-over protection at multiple levels, including at the wireless link and the connection to the wired network.
- **Interference resilient.** Offer protection against local environmental disrupters and resiliency for interference.
- **Standard IEEE 802.11 (Wi-Fi) compliant.** Interoperate with standard IEEE approved and supported Wi-Fi (802.11x) networking devices.
- **City Usage** - System will be used for Public Safety as well as by City personnel.
- **Vehicles** – Ability to transition from one node to another with no disruption in data stream.
- **Existing Vlans** - will be used on any additional proposed system allowing public safety and City use.
- **Public Access monitored** - When State or Federal mandates.
- **Internet and E-mail backup** - Backup or primary access for City of Pleasant Hill to the Internet and E-mail.
- **Support** – Support for paid subscribers, City and free access users to be outlined (Service Level Agreement).
- **Prioritizing Traffic** – The network must have the ability to prioritize traffic in emergency conditions or as required by the city allowing public safety functions top priority.
- **Future Access** – The City may in the future place cameras in Police Cars with ability to access this over this network from dispatch. Turning on sprinkler systems in medians and reading of meters of only City assets may also be desired in the future.

## **Objective**

Wireless Internet access will:

- Reduce the City’s communications expenses – saving taxpayers money - and allowing the City to deliver more efficient, effective and responsive services.
- Stimulate economic development, job growth and increased competitiveness for the City - attracting new capital to the region (i.e. human, financial, physical and technological).
- Promote digital inclusion throughout the City, particularly in low-income areas and for students.
- Assist Public Safety using existing VLANS for Police Officer’s/Fire District to cross border restrictions and City Inspectors and City Personnel to access City Systems from the field. (Tie-in by other Agencies to be discussed during negotiations).

### **1.1. Bid Process**

The City of Pleasant Hill will conduct the selection of a vendor and award contract in the following manner:

- 1) This document will be distributed to all interested vendors.
- 2) The proposals will be received and evaluated as described in this RFP. If necessary, a short list of the most qualified vendors will be compiled and these vendors may be asked to make an oral presentation. The City of Pleasant Hill may also choose to conduct site visits to vendor installations similar to the one proposed.
- 3) A contractor will be selected for contract negotiations.
- 4) At the conclusion of negotiations, a contract will be presented to the City Council for review and approval.
- 5) Vendor may submit multiple bids for different wireless networks such as mesh or access points.

### **1.2. Schedule of Events**

The following is the schedule of events listed in the order of occurrence, showing the major milestones from issuance of the RFP to the contract award:

MILESTONE EVENT PLEASANT HILL	DATE
1. RFP Issuance	5 April 2007
3. Proposal Due Date	31 May 2007
4. Proposal Evaluation completed	15 June 2007
5. Contract Negotiation completed	30 June 2007
6. Contract signed	July 2007
7. Project begins	July 2007
8. Implementation completed	July 2008

The City of Pleasant Hill reserves the right to change the schedule of events as it deems necessary. In the event of a major date change, the City of Pleasant Hill will notify all known vendor participants. The City of Pleasant Hill also reserve the right to issue addenda to this RFP up to seven days before the bid date as needed to clarify or to make corrections. The Bidder will acknowledge receipt of all addenda in their proposals.

### **1.3. Contact Information**

The City of Pleasant Hill has designated James Ziegelman to be responsible for coordinating communications between City of Pleasant Hill and potential Bidders. He may be contacted at:

City of Pleasant Hill  
100 Gregory Lane  
Pleasant Hill, CA 94523  
925 671-5236

### **1.4. Submittal Instructions**

Vendors are to submit 1 electronic copy of the proposal to [itmanager@ci.pleasant-hill.ca.us](mailto:itmanager@ci.pleasant-hill.ca.us).

In addition, 2 originals of the proposal shall be submitted on or before 18:00 (6 pm) on 31 May, 2007 to:

James Ziegelman  
City of Pleasant Hill  
100 Gregory Lane, Pleasant Hill  
California 94523

All bids should be clearly marked "Proposal for Public Digital Initiative (WiFi)" for City of Pleasant Hill.

Bidder questions must be received by the date specified on the RFP.

It will be the sole responsibility of the vendor to have their bids delivered to the City of Pleasant Hill before the closing hour and date. Late bids will not be considered and will be returned unopened to the sender.

Bids having any erasures or corrections must be initialed in ink by the vendor. The proposal must contain the signature of the duly authorized officer of the Bidder and must be signed in ink.

All bids will be valid for a period of 90 days following the bid opening.

All costs incurred by the vendor in preparing the proposal, or costs incurred in any other manner by the vendor in responding to this proposal will be wholly the responsibility of the vendor. All materials and documents submitted by the vendor in response to this specification become the property of the City of Pleasant Hill and will not be returned to the vendor.

Any proprietary information contained in the proposal should be so indicated.

The City of Pleasant Hill will notify winning Bidder of the Bid Award and will arrange a meeting with the Bidder to commence contract negotiations.

## **2. General Conditions and Instructions to Proposers**

### **2.1. *Proposal Format***

To enable the evaluator to fairly evaluate each bid, the Bidder will use the following proposal format:

#### **Cover Letter**

A one-page cover letter, signed by an authorized representative of the Bidder, must be included in the submittal. It must contain the name and address of the corporation or business submitting the proposal, as well as the name, address, telephone number, and title of the person authorized to represent the Bidder.

#### **Contents**

##### **1. *Executive Summary***

The vendor will describe its approach to the installation of systems of this kind and identify any unique or distinctive features of the system that the vendor wishes the evaluation committee to give particular attention.

##### **2. *Response to Terms and Conditions***

The vendor will indicate its agreement to the specified terms and conditions addressed in this RFP, identifying any exceptions taken. The vendor will also enclose a sample contract.

##### **3. *System Description***

The vendor will provide a clear and complete description of the proposed system. The description will be sufficient to enable the evaluation committee to determine that the proposal satisfies the RFP requirements and meets the needs of City of Pleasant Hill. The description will describe how the system meets the General System Requirements outlined in Section 3.2 of this RFP. The description may be augmented by the inclusion of operations manuals, but it is the vendor's responsibility to provide the required description in the body of the proposal.

##### **4. *Compliance Table***

The vendor will complete the compliance table included in Section 4 of this RFP.

##### **5. *Implementation Plan***

As stated in Section 6 of this RFP, the vendor will present a schedule for implementation of the system. The schedule will highlight important milestone dates with a description of what these tasks include. Please include a Gantt chart depicting the project from start to final acceptance.

As part of the installation plan, the vendor will describe activities to be undertaken as part of the installation. Of particular importance is the identification of activities and/or responsibilities that the vendor would ascribe to the City of Pleasant Hill during, or as part of the installation.

##### **6. *Maintenance***

The vendor will include in this section a description of the proposed maintenance (Service Level Agreement to the public, free plans and City).

##### **7. *Vendor Qualifications***

The vendor will provide a brief description of its company and company history. The vendor will also provide a list of past projects that the vendor believes qualifies it to undertake the City of Pleasant Hill project.

## **2.2. Evaluation Criteria**

### **2.2.1. Weighted Evaluation Factors**

Proposals will be evaluated by the following criteria:

Vendor Qualifications	[50]%
System Suitability	[40]%
Schedule	[10]%

It should be understood that these weighing factors are only approximations and that vendors must be acceptable in all areas to be considered. The City of Pleasant Hill reserves the right to waive any irregularities and technicalities and to request re-bids. It is the City of Pleasant Hill intention to award the contract to the vendor that best serves the interests of the City.

### **2.2.2. Vendor Qualifications**

The City of Pleasant Hill is requesting proposals from organizations that are qualified as system contractors and are either the manufacturers and/or developers of the system offered or authorized agents of such manufacturer or developer. Vendors with the following qualifications are encouraged to participate in the RFP process and submit proposals:

- Demonstrated experience in the design, installation, and maintenance of the proposed system.
- Ability for the hardware to be maintained by the user with no special tools or expertise.
- Sufficient qualified and experienced engineering, design, installation and **personnel** to satisfy any engineering or service problem.
- References showing previous implementations of proposed systems.



### **2.2.3. System Suitability**

The vendor will be evaluated on the suitability of its system with respect to the following factors:

- Does the Wireless WAN Data Communications System meet all the functional and bandwidth needs?
- Does it provide a system that will be easy to deploy and easy to use? Will it automatically adapt to changing environmental conditions without manual intervention?
- Does the proposed communications network provide redundant coverage across the service area without coverage gaps?
- Does the communications system offer high levels of reliability, fault tolerance? Does it self-heal in case of failure? Is it standards compliant? Does the vendor offer industrial-grade equipment for outdoor environments? Will it be easily expandable without replacement?
- Will the system be user maintainable? If so, what tools do you use?

The items above represent general evaluation topics. The technical evaluation will, of course, consider each of these topics in detail.

### **2.2.4. Project Manager**

The vendor will designate a project manager who will serve as the point of contact for the City of Pleasant Hill responsible for the system installation. The vendor's project manager will be named immediately after contract signing. If for some reason, The City of Pleasant Hill is dissatisfied with the project manager, the City of Pleasant Hill reserves a right for another project manager to be assigned. Time frames on implementation will be adjusted/reviewed if another manager is assigned.

### **2.2.5. System Installation**

The vendor will be responsible for complete and timely installation of all equipment. The vendor may utilize the services of equipment suppliers or service agencies to do the physical installation, but this does not relieve the vendor of any responsibility for the installation. The vendor's project manager will remain the contact for any installation issues or problems.

### **2.2.6. System Acceptance**

Upon completion of field installation of the network, the contractor will certify that the network is ready for acceptance. The vendor will be required to demonstrate all system functions to the City of Pleasant Hills’ satisfaction. Any problems found during this demonstration will be immediately corrected by the contractor after which time the City of Pleasant Hill will verify that corrections have been made and accept the system.

The vendor will then perform final system testing. Upon completion of the final system testing, the contractor will certify that the network has passed the final system test criteria. Final system test criteria include:

- End-to-end throughput testing from spot locations within the coverage area
- Verification of security and VPN filtering functionality
- One month reliability test
- Validation of link and network fail-over mechanisms

### **2.2.7. Termination Provisions**

In the event that any of the material provisions of the contract are violated by the vendor or by any of its subcontractors, the City of Pleasant Hill may, at its discretion, serve written notice to the vendor and the surety of its intention to terminate the contract. Such notice will contain the reason for termination. The vendor will then have 30 calendar days to either correct the violation or to make arrangements for correction to be made to meet the satisfaction of the City of Pleasant Hill. If no arrangement is reached within the 30-day period, the contract will be declared terminated. In the event the company providing services goes out of business, file for bankruptcy or ceases to provide free internet services to the public, the company will remove all equipment pertaining to the project within 90 days and revert back to the original state prior to taking over the City WiFi System or turn over the equipment and all documentation to the City of Pleasant Hill. In the event equipment not taken down after 90 days, the equipment becomes the property of the City of Pleasant Hill.

### **2.2.8. Demonstrations**

The City of Pleasant Hill may require on-site demonstrations of the proposed system. All demonstrations conducted onsite will be the responsibility of the Bidder. The City of Pleasant Hill may also require visits to existing Bidder installations.

In the event multiple vendors submit a joint proposal in response to this RFP, a single vendor will be identified as the prime contractor. Prime contractor responsibilities will include performance of contract administration and management.

The prime contractor will be directly responsible for the performance of all its subcontractors.

### **2.2.9. Equal Employment Opportunity**

The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin.

Such action will include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of

compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

#### **2.2.10. Copyright and Patent Rights**

The vendor warrants that there are no existing claims of violation and vendor has no knowledge of any potential claims of violation of copyrights or patent rights in products being proposed in this bid as of the date of bid submittal. City of Pleasant Hill expect indemnification by the vendor of any claim or action brought against City of Pleasant based upon a claim that the software or hardware provided by the vendor violated any copyright or patent rights.

#### **2.2.11. Taxes**

Pleasant Hill Tax Rate – 8.25%

#### **2.2.12. Insurance**

Within ten (10) days of contract signing, the contractor will furnish a certificate of general liability and product liability insurance, auto liability and workers compensation insurance in compliance with the City’s standard insurance requirements.. These policies will remain in effect through final system acceptance.

#### **2.2.13. Hold Harmless**

The Contractor will defend, indemnify and hold the City of Pleasant Hill, its officers, agents, engineers, and/or employees harmless from all claims of damage due to Vendor's/Contractor's negligent acts or omissions related to Contractor's performance of the work.

#### **2.2.14 Business License**

The vendor will obtain and maintain a City of Pleasant Hill Business License.

### **3. General System Requirements**

#### **3.1. *Background and System Details***

##### **3.1.1. Existing Communications Infrastructure**

The City of Pleasant Hill currently has WiFi coverage indicated on the below diagram. PG&E has given the City of Pleasant Hill preliminary approval to proceed for the purpose of this RFP. Interested parties will contact James Ziegelman, Network Manager for any details concerning this RFP. Pleasant Hill is open for redesign.

Equipment currently in use are a combination of 6 Vivato 802.11b Panels and 2 802.11g Panels with Vivato AP's. Panels are indicated in green and Ap's are indicated as red. Yellow lines with red dots indicate point to points. Trango units are used as point to point communications bringing this into one network. Either Cisco Layer 2 and 3 switches are used on each site. We are currently interfaced with the City of Concord via fiber and Trango units. Possible City of Walnut Creek can be connected to this via fiber.

Mobile Units are outfitted with Cisco Air Cards 350 with Amp's and external antennas. Points of entry into the City network are the Police Department and City of Pleasant Hill City Hall.

Currently SSID ZWAN-PEASANTHILL is open to the public serving our downtown (Crescent), City Hall and the Police Department.







### 3.1.2. Mounting and Backhaul Locations

<b><u>City Owned Facilities</u></b>	<b><u>• Signal Lights</u></b>	<b><u>• Repeater Sites Not City Owned</u></b>
330 Civic Drive PD Existing Mast (14.4 Meters)	• CLEVELAND @ GREGORY	• Water Tower at Wildcroft, Martinez
100 Gregory Lane (City Hall)	• CONTRA COSTA BLVD @ WOODSWORTH	• Consolidate File, Geary Rd, PH
310 Civic Drive Corporation Yard	• CONTRA COSTA BLVD @ ELLINWOOD	• 2300 Contra Costa Blvd
160 Crecent Drive Parking Garage Downtown 3-Story Structure	• CONTRA COSTA BLVD @ VIKING	•
•	• CONTRA COSTA BLVD @ VIKING	• •
•	• CONTRA COSTA BLVD @ TAYLOR/WILLOW PASS	• •
•	• TAYLOR BLVD @ MORELLO	• •
•	• TAYLOR BLVD @ NORSE/LUCILLE	• •
•	• TAYLOR BLVD @ RUTH	• •
•	• OLD QUARRY @ GOLF CLUB	• •
•	• Contra Costa Blvd @ BETH/DORAY	• •
•	• TAYLOR BLVD @ APOLLO	• •
•	• GREGORY @ MOISO	• •
•	• OAK PARK/COGGINS @ BUSKIRK	• •
•	• P. HILL RD @ DEVON	• •
•	• P. HILL RD @ WESTOVER/STRAND	• •
•	• GEARY @ P. H. RD	• •
•	• OAK PARK @ PATTERSON	• •
•	• OAK PARK @ P. VALLEY	• •

<b><u>City Owned Facilities</u></b>	<b><u>Signal Lights</u></b>	<b><u>Repeater Sites Not City Owned</u></b>
•	• CONTRA COSTA BLVD @ GOLF CLUB	• •
•	• CONTRA COSTA BLVD @ CRESCENT	• •
•	• CONTRA COSTA BLVD @ CRESCENT/MONUMENT	• •
•	• CONTRA COSTA BLVD @ BOYD	• •
•	• CONTRA COSTA BLVD @ OAK PARK	• •
•	• CONTRA COSTA BLVD /N. MAIN @ OAK PARK	• •
•	• OAK PARK @ MONTICELLO	• •
•	• GEARY @ PUTNAM	• •
•	• P. HILL RD. @ GREGORY/GRAYSON	• •
•	• P. HILL RD @ TAYLOR	• •
•	• P. HIL RD @ VIRGINIA HILLS	• •
•	• P. HILL RD @ BLUE RIDGE	• •
•	• TAYLOR BLVD @ GRAYSON	• •
•	• OLD QUARRY @ CHILPANCINGO	• •
•	• MONUMENT @ RAMONA/BUSKIRK	• •
•	• BUSKIRK @ LAMKIN	• •
•	• CLEVELAND @ BOYD	• •
•	• GREGORY @ HELEN	• •
•	• CRESCENT DR @ CRESCENT PLAZA	• •
•	• CLEVELAND @ CRESCENT PLAZA	• •
•	• CONTRA COSTA BLVD @ ASTRID	• •
•	• CONTRA COSTA BLVD @ VIVIAN	• •

## **3.2. General System Requirements**

The system must have ability to be monitored for errors, signal loss, throughput and ability to download software to devices recommended by the contractor. These are considered to be minimal requirements; vendors are encouraged to identify areas in which their proposal exceeds the requirements.

For purposes of these requirements, it is assumed that local coverage for the Wireless Network System will be provided by Wi-Fi Cells (outdoor compliant radio equipment, including antennae and any other required equipment). Wi-Fi Cells provide signal coverage to a local area for the Wireless Network.

### **3.2.1. System Parameters**

The system shall be fully interoperable with standard IEEE 802.11 (Wi-Fi) networking devices.

As an MCT roams through the system, the system shall automatically provide handoff from one Wi-Fi cell to the next, ensuring that it will always select a high quality signal.

If another type of network is proposed, guarantees must be provided for such as traditional access points hand offs of signal roaming through the system.

The system proposed will be low maintenance and will not require constant configuration changes by the end users.

### **3.2.2. System Capacity**

The wireless system shall offer fully-redundant coverage over the proposed service area, anywhere that a car can navigate on the streets. The vendor shall make clear how the system provides an expansion path for potential expansion of the area of service.

For City use, the system shall provide high bandwidth capacity to handle multiple applications. These applications would include [application to write, submit, and print reports while in the field; viewing mug shots, streaming video, access to records management system, ability to access the Web and e-mail, other portable computing applications].

### **3.2.3. Reliability and Fault-tolerance**

The system shall offer high levels of reliability and deliver 99.99% network uptime within the coverage area. It shall provide automatic fail-over protection at multiple levels, including at the wireless link and the connection to the wired network.

The system as proposed must provide protection against local environmental disrupters and resiliency for interference. This protection must operate automatically and not require manual intervention.

### **3.2.4. Network Topology**

Vendor shall specify the network topology of the proposed system. Identify the number of Wi-Fi cells or other devices, mounting options and backhaul connection points.

### **3.2.5. Hardware**

The Wi-Fi cell and related equipment shall support multiple power configurations. It shall offer easy and straightforward mounting. The hardware shall be industrial-grade and designed for outdoor environments.



## 4. Wi-Fi WAN Communications System Compliancy Table

This section of the RFP contains a list of the general requirements for the Wireless WAN Data Communications System. While Section 3, General System Requirements, will provide the City of Pleasant Hill with an in-depth narrative description of the vendor's proposed system, this compliance table will further facilitate in the overall evaluation of each vendor's proposal.

Please use the attached forms or exact facsimile in responding to the requirements and questions regarding functions, features, and reporting capabilities in this section of the RFP. The codes defined below must be used in the “Responses” column.

Response	Category
E	Requirements will be met by vendor’s existing software/hardware.
M	Requirement will be met by the projected installation date through proposed modifications to existing software/hardware.
F	Requirement will not be met by the projected installation date but will be met by a planned, future version release.
X	Requirement cannot be provided.

City of Pleasant Hill strongly recommends the vendor respond to each application. An omitted response will be scored the same as a response code of X (requirement cannot be provided).

Requirement	Response	Comments
<b>4.1.1. System Requirements</b>		
The wireless network shall provide the ability for MCT's to connect to the existing wired network, with all capabilities of a wired connection		
The network will be fully interoperable with a variety of standard 802.11x networking devices. It will not require purchase of client radios from a single vendor.		
The system will be low maintenance not requiring constant configuration changes by the end user.		
Requirement	Response	Comments

<b>4.1.2. Wi-Fi Cell Requirements</b>		
What is the operating temperature range of proposed equipment?		
The equipment shall meet or exceed all applicable FCC requirements and fully comply with IEEE/ANSI standards as they apply to measurement of specifications		
Lightning protection to be provided on all antenna systems.		
Antenna systems to be grounded per NEC and EIA standards.		
The equipment shall offer receiver sensitivity of -94 dBm or better on the client access radio		
The enclosures shall conform to the NEMA 4x weather tight standards		
The equipment shall be UL/cUL certified for outdoor installation		
The equipment shall offer antenna protection and electrical protection		
Software and firmware in each unit can be upgraded remotely		
Each unit shall be simple to deploy with auto-discovery and auto-configuration to ease configuration requirements		
<b>4.1.3. Client Station Requirements</b>		
The system must work with the existing Patrol Car (Cisco Air 350 cards) If retrofit is required, what equipment is needed?		

<b>4.1.4. Reliability and Fault Tolerance Requirements</b>		
System reliability and fault tolerance shall be major objectives in the design of the system.		
The system shall self-heal in the event of unit failure or wireless link degradation.		
Units must be able to recover automatically from any loss of power.		
The system as proposed must provide protection against local environmental disrupters and resiliency for interference. This protection must operate automatically and not require manual intervention.		
The system shall provide automatic fail-over protection at multiple levels, including at the wireless link and the connection to the wired network.		
The system shall deliver 99.99% uptime within the coverage area.		
<b>4.1.5. Coverage, Capacity and Performance Requirements</b>		
The system shall offer 1+ Mbps of throughput.		
The system shall cover 90% of the coverage area		
How many concurrent users will your system support? How many per node?		
Vendor is responsible for predicting radio coverage performance using industry standard survey and test equipment. SSID ZWAN-90 is populated on the current system for testing of signal strength.		
Vendor is responsible for validating that the actual system matches the predicted coverage performance.		
Vendor is responsible for identifying the location and configuration of equipment.		

<b>4.1.6. Security Requirements</b>		
Ability to restrict network access based on MAC addresses.		
City system shall filter user traffic based on VPN authentication		
The system shall eliminate denial of service attacks by prohibiting IP access to unauthorized users		
The system should include advanced means to protect itself against compromise if an attacker gains physical access to the system such as using high-grade encryption to protect data storage areas from compromise.		

## 5. Proposed Hardware/Software Platforms

### 5.1.1. Overview

This section covers the various components required for each part of the Wireless Network System.

### 5.1.2. Wi-Fi Cell/Other Proposed Component List

Please provide a detailed description of the hardware and software components used in each Wi-Fi Cell/Bridge/Repeater.

Component	Model and Part #	Manufacturer Name & Address	Description	Qty

### 5.1.3. Existing MCT Client Station Retrofit Component List

IF MCT is in need of retrofit, please provide a detailed description of the hardware and software components used to retrofit existing MCT’s to interface to this wireless network, including any equipment for the automobile. Current MCT is outfitted with Cisco Air 350 with Amp’s and external antennae.

Component	Model and Part #	Manufacturer Name & Address	Description	Qty

#### 5.1.4. New Client Station Component List

Please provide a detailed description of the hardware and software components that make up the Client Station **if needed** for indoor use.

Component	Model and Part #	Manufacturer Name & Address	Description	Qty

## 6. Projected Implementation

The vendor will provide a project implementation plan with appropriate Gantt charts or similar representations of the milestones and timing of each implementation according to their install.

The project duration anticipated for this installation of Pleasant Hill is 12 months from contract signing to system acceptance. If the vendor’s proposed schedule should exceed (or fall shorter than) this duration, please include an explanation of the variance. The schedule will highlight important milestone dates with adequate description of what these tasks include. Please include a Gantt chart depicting the installation from project start through final acceptance.

As part of the installation plan, the vendor will describe activities to be undertaken as part of the installation. Of particular importance is the identification of activities and/or responsibilities that the vendor would ascribe during, or as part of the installation. Elements of the project plan should include:

- **Network Architecture Design.** The Network Architecture Design is a document that describes the wireless network architecture and how the various components work together. This document should be a direct result of the responses to this RFP and will be included with the RFP response.
- **Site Survey.** A Formal Site Survey will be conducted to identify issues and options for establishing connectivity throughout the coverage area.
- **Detailed Network Design.** As a result of the Site Survey, a Detailed Network Design will be developed that identifies all of the components of the wireless network.
- **Installation Plan.** The installation plan will include a statement of work and equipment list for each location.
- **Deployment.** Please clarify the proposed timeline for your deployment efforts.
- **Explain the procedure for the final acceptance of the new system by City of Pleasant Hill.**